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ABSTRACT

This lesson resource includes a brief summary of the history of bead making and historic fascination with beads as adornment. A focus on design elements, color theory, craftsmanship, and technical skill in bead making is encouraged. The plan includes lesson goals and objectives; background preparation; a glossary of terms; a list of supplies; and instructions for lesson implementation. Commercially made polymer clays are to be used. Color tips and suggestions for technical manipulation of materials are given. The lesson plan concludes with references. (MM)

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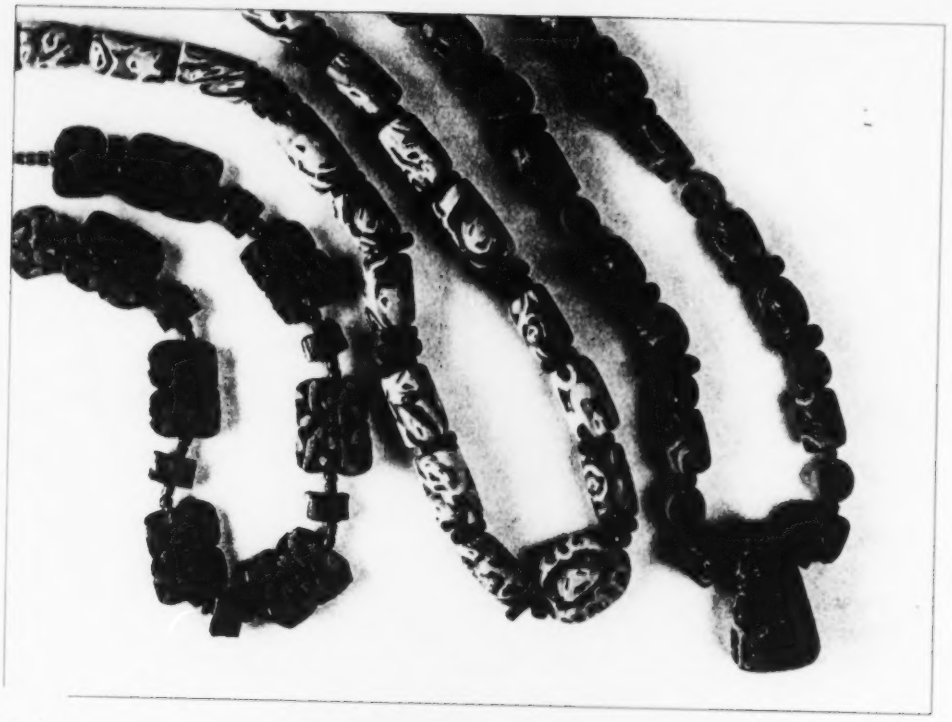

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AMACO®

Lesson #7

Beautiful Beads

A Lesson in Making Beads with Friendly Clay™

Why have people always been so fascinated by beads? Beads and bead making have been part of the culture and history of mankind since its beginnings. Animal teeth and bones dating from 38,000 B.C. are the earliest known beads, and stones and shells can be seen in ornaments made by stone age cultures. Clay beads were made as early as 5,000 B.C.; metal beads appeared around 4,000 B.C.; faience beads from Egypt date from 3,400 B.C.; and the production of glass beads began around 2,400 B.C. Mankind and womankind have always wanted to decorate and adorn themselves, but beads have carried much more meaning than simply decoration. Beads have been used as symbols of status, wealth, or membership in a tribe or group. They have been regarded as magical or spiritual, and have sometimes been credited with a power to cure. In some cultures, beads were used as religious offerings. Hindu, Buddhist, Islamic, and Roman Catholic religions all use beads in prayer. In Greece, "worry beads" are used to relieve tension. Beads have been part of man's exploration and, in some ways, represent improved technology. Early traders and explorers carried barter beads to new lands and cultures. Columbus brought Venetian glass beads as gifts to the West Indies, and although the natives were making beads of their own, they greatly prized these new beads made from a technology unknown to them. In this lesson we will use a modern technology, polymer clay, to mimic many very old ways of making beads. Each bead we make represents a link with the history of humanity; each bead is part of our heritage.

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Lesson Goals and Objectives:

1. Students will create a variety of different types of beads using Friendly Clay™ and FIMO® Polymer Clays.

2. The lesson will incorporate art history, aesthetics and criticism with a hands-on activity.

3. The lesson will focus on important composition and design elements essential to bead making, color theory, craftsmanship, and a variety of technical skills for creating different types of beads as well as self-expression.

Background and Preparation:

1. This project has been designed for high school students, but can be used with middle school students as well.

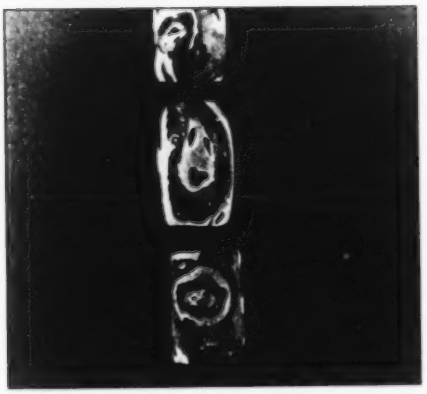
2. The art teacher should introduce an historical overview of bead making, focusing on its long and rich tradition. Beads appear in the earliest of human history and have played a role in most important aspects of advancing and changing cultures – as religious offerings, social and cultural symbols, magical, medical "tools," currency for trade and barter, and, of course, as simple ornaments of decoration. Students should understand the history of the function of beads as well as the history of the beads themselves – materials and techniques used. Show students photographs of beads throughout history, and, if possible, have actual examples for students to see and touch.

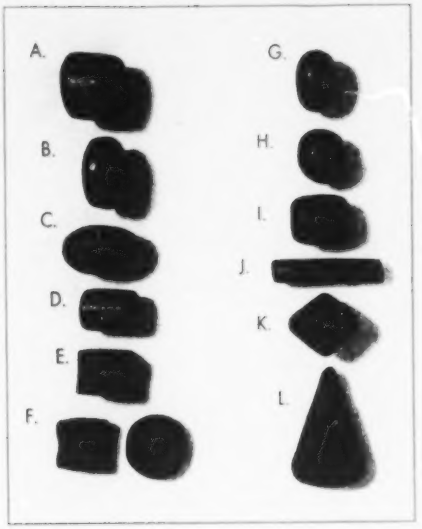
3. Talk to students about the craftsmanship necessary to work on such small items and the need for consistency, patience, and a light touch.

4. Provide students with suggestions and tips for using Friendly Clay™ and FIMO® Polymer Clays successfully. These should include skill and safety practices as well as color techniques.

5. Create examples of the variety of different bead making techniques for students to examine, and demonstrate the techniques.

6. Provide students with illustrations of various bead shapes.





Bead Shapes

A. Annular
B. Cylindrical Disk
C. Ellipsoid
D. Cylinder
E. Square
F. Tabular
G. Oblate
H. Spheroid
I. Barrel
J. Tube
K. Bicone
L. Pendant

Glossary:

Analogous – related colors such as orange and red, colors next to each other on the color wheel.

Aventurine – a form of glass in which metallic scraps are picked up into the hot glass.

Cane – a term borrowed from glassworking, refers to either plain or patterned glass rods to be used as an addition to glass pieces, used to make millefiori beads.

Cool colors – colors that seem to recede: purple, blue, and green.

Complementary colors – colors that are opposite each other on the color wheel, the complementary of a primary color is formed by mixing the other two primary colors, thus green is the complementary of green.

Faience – a clay whose mineral content rises to the surface during drying and when fired becomes a glaze surface.

Hue – the actual color of an object.

Loaf – a square or rectangular block of clay having a complex pattern running throughout.

Millefiori – an Italian word which translates to mean "thousand flowers", used to describe the floral designs Italian Renaissance glassworkers near Venice created to copy ancient mosaic glass.

Mosaic – made from small tiles of glass or clay fitted together to make a picture or design. Some of the earliest mosaics were used to decorate walls and floors in Ancient Rome.

Polymer – a natural or synthetic chemical compound.

Snake – in working with polymer clay, a small log usually of a single color.

Value – the lightness or darkness of a color.

Warm colors – colors that advance, that feel warm, red, yellow, orange.

Supplies:

Freezer paper
Wax paper
Long pin
Rolling pin
Resealable plastic bags
AMACO® Needle Tool, Catalog #TG469
Fettling Knife, Catalog #11192H
Xacto® knife
Brayer, Catalog #12330 or 12331K
Assorted FIMO® colors available in 2 2/3 and 12 oz. sizes
Assorted Friendly Clay™ colors available in 1.75 and 9 oz. sizes

Optional Supplies:

Pasta Machine, Catalog #12144X
Bead Racks, Catalog #11269K or 11289N

Preliminary Instructions:

Working with Friendly Clay™ and FIMO® Polymer Clays:

1. Keep working surface clean. Tape freezer paper to desks or tables so clay will not pick up dirt.

2. Wash hands before and after working with the clay. Clean hands help keep the clay looking bright and fresh.

3. Use the heat of your hands to soften the clay. The clay may be stiff and crumbly when first taken from the package. It becomes soft and easy to model if you warm it and knead it in your hands.

4. Try to use every little bit. Even the smallest scraps are useful in beads. Store scraps in resealable plastic bags. Be sure different colors are wrapped in wax paper to prevent color contamination.

5. Store clay in a dark place at room temperature.

6. Follow package directions for hardening. Do not over or under bake.

7. Although all Friendly Clay™ and FIMO® are completely safe to use and are AP Non-toxic, proper safety precautions should still be followed. Don't eat the clay, don't use tools for clay and food, don't eat while working, and don't overbake clay.

Color Tips

1. Contrast in hue or value will make designs easier to see. The more contrast, the more vibrant the design.

2. Be careful when mixing colors. Mixing opposite colors will create neutrals. It's easy to make muddy colors.

3. Blending analogous colors will give cleaner tones.

4. Suggested combinations – warm and cool neutrals, complementary pairs, "family" colors in different values, triad color schemes, colors from nature.

Craftsmanship

1. Try to combine patience and control. Develop a light, careful touch.

2. Be sure the bead is just the way you want it to be before it is baked.

3. Make beads that will survive. Beads with fragile pieces will probably break later.

4. Try to be consistent. A sign of a good craftsman is the ability to make multiple versions of an object which are all good quality.

5. Make more than one bead at a time. Work in pairs or groups of beads.

6. Do not forget to put a hole for stringing in each bead you make, before baking.

Instructions: Snakes and Eggs

1. Soften some clay by compressing and rolling it in your hands. If it is stiff, knead smaller portions and then combine them.

2. Practice rolling very even snakes. If the clay crumbles, it is not warmed up enough.

3. Roll out an evenly shaped cylinder about 1/4" in diameter.

4. Slice the snake into 1/4" segments (see figure 1). Hold the blade perpendicular to the snake and gently roll it while pressing to avoid flattening the snake.

5. Trade the two end pieces with another student to get a different color.

6. Use the new color to make a very skinny snake and slice it into tiny dots. Keep the dots separated.

7. Use the 1/4" segments to roll egg-shaped bead forms.

8. Press the dots carefully onto the eggs. Avoid clumping. Gently roll the eggs to fuse the dots to the egg (see figure 2).

Spirals

1. Soften two colors of clay.

2. Make two snakes that are 1/4" in diameter each.

3. Place the snakes side by side. Trim to the same length. Holding one pair of ends together, gently roll the snakes around each other.

Figure #1

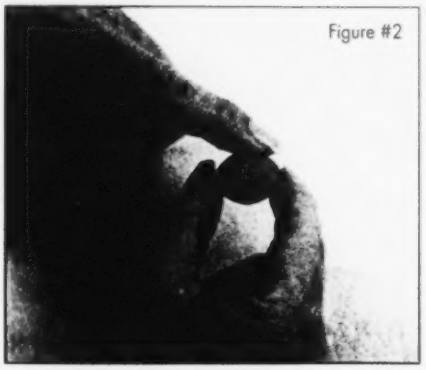


Figure #2

4. Fuse the two colors by continuing to roll them gently. Don't lose the twists. You've created a candy cane.

5. Make the candy cane a little skinner, being careful not to lose the twists.

6. Variation #1: Cut a 1-1/2" segment from the candy cane snake. Roll it around an egg, a skinny solid snake, or a pen to get a spiral effect. It can be rolled to flatten or left bumpy (see figure 3).

7. Variation #2: Cut about six 1" segments of the candy cane snake. Place them side by side in alternating directions to form a rectangular pad. With another bit of solid clay, roll a snake. Use it as the center section and arrange six striped segments around it. Roll gently to fuse. Slice into beads. Or, section each segment lengthwise and place cut side down on wax paper. Follow rest of directions for #2.

Figure #3

8. Variation #3: Cut about a two-inch length of the candy cane snake. Join ends together to make a circle. Push circle together from three points to form a Y shape. Fold other points up and press them together to form a ball. A small bead of clay can be enclosed into this form, if desired (see figure 4).

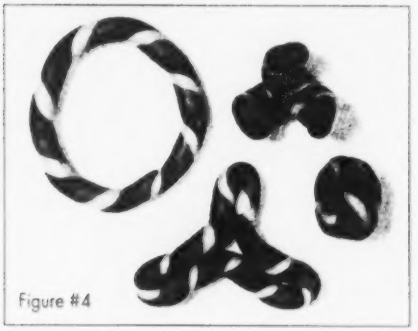


Figure #4

Millefiori

1. Soften three to five colors of clay.

2. Roll clay into skinny snakes and cut each into 5" lengths.

3. Arrange lengths in parallel groupings, stacking them to form a bundle. The pattern can be seen at the end of the bundle.

4. Gently squeeze and roll bundle together to fuse. Use consistent pressure.

5. Roll evenly to make the bundle into a snake.

6. When snake is about 1/4" in diameter, cut it into equal lengths and stack in a rectangular bundle.

7. Gently press bundle together to fuse.

8. Cut three 1/2" slices from the end of the bundle. Place them flat on wax paper, side by side.

9. Roll these around a filler snake and slice into beads.

10. Try squeezing remaining portion of bundle together to form either a very thick cylinder or a cube form. Slice into tabular beads.

11. Try making bundles from bundles to make smaller and smaller patterns. The designs can become very intricate (see figure 5).

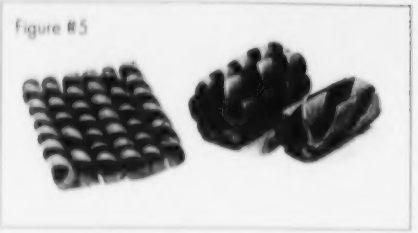


Figure #5

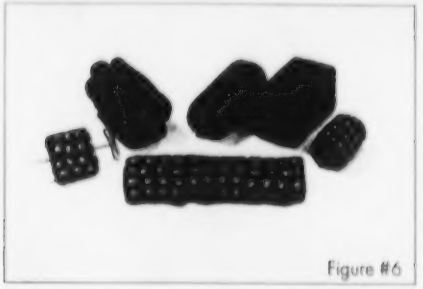


Figure #6

Mosaics, Canes, and Loaves

The basic idea of this process is to stack cut shapes of clay to form a pattern or picture which can be sliced in sections from the loaf.

1. Soften colors of clay which you plan to use in your design. Roll them into stubby cylinders or form them into cubes of equal height.

2. Slice down through the cylinder with an exacto® knife to get the shapes you need. Keep the shapes simple. Place shapes together like a puzzle to make more complicated designs (see figure 6).

3. Pack the picture together. Don't leave gaps.

4. Add shapes around the outer edges of the picture to make a cylinder.

5. Roll cylinder to reduce size of design.

6. To make a bead: a. slice off one or more 1/4" thick images and fuse these to an already formed bead, or b. slice off a 1/4" image and make a tabular bead (see figure 7).

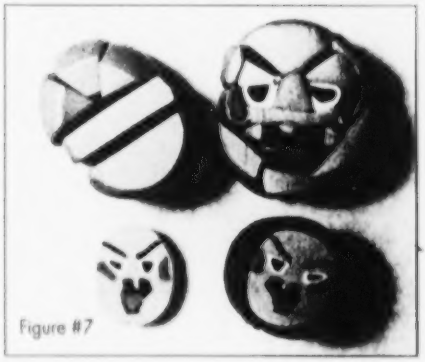


Figure #7

Noodles

A pasta machine can be used to make even slabs of polymer clay much like a slab roller is used with ceramic clays. To avoid air bubbles between layers of polymer clay, use a rolling pin or brayer. These are also both useful to thin layers. Place clay between two sheets of wax paper. If you use a pasta machine be sure that it is used exclusively for clay and never for food.

1. Stripes: Make slabs of different colors. Stack them to form a loaf. Trip to a rectangular shape as you add each layer. This allows you to keep scraps pure and uncontaminated. Use a brayer to remove bubbles and to make slabs thinner (see figure 8).

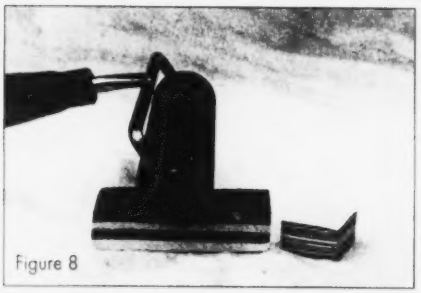


Figure 8

2. Checkerboard: Slice the stripe loaf into strips. Offset strips to form checkerboard.

3. Angles: cut down through the loaf, making slices at an angle and re-assemble (see figure 9).

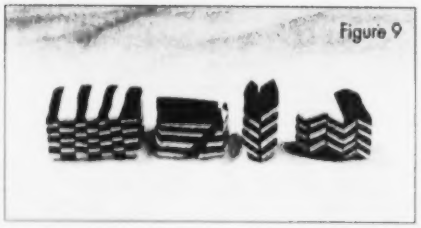


Figure 9

Foil

The adventurine technique can be mimicked using metallic craft foil. Place the foil over the clay slab and run it through the pasta machine or just knead it. Try using it as a layer in a loaf.

End of the Day Beads

"End of the Day" glass or ciumbi glass was produced by Venetian glass blowers using the scraps of glass which remained at the end of the day. Randomly patterned, spotted beads were made by gathering the "crumbs." Try chopping up the remainders into confetti like bits. Remember not to mix the clay too much or the colorful nature of these beads will be dulled.

Baking Instructions:

Both Friendly Clay™ and FIMO® are polymer clays which harden in a kitchen oven or a toaster oven. Pierce through center of each bead with needle tool or large pin. Be sure the hole is large enough to thread. Place beads on a bead rack or on a long skewer or stiff wire suspended across a pan with raised edges. Bake in a pre-heated home oven or toaster oven set at 265°F (130°C) for at least 30 minutes according to package instructions for individual colors and product. For best results, verify oven temperature with a cooking thermometer. Do not harden in a microwave oven, and do not heat above recommended temperature or overbake. Heating polymer clays above 375°F (191°C) will cause polymer clays to decompose and to release a toxic fume. Do not inhale fumes. After cooling, the beads can be strung.

References:

Dubin, Lois Sherr. The History of Beads. Harry N. Abrams Books, New York. 1987.

Rachel, Nan. The New Clay. Flower Valley Press. Rockville, Maryland. 1991.

Examples of Friendly Clay™ beads were made by students at Douglas Anderson School of the Arts, Jacksonville, Florida. The lesson was developed by Susie Lynch, art teacher.

This is one lesson in a series of art plans for elementary and secondary programs using American Art Clay Co., Inc. products. Successful lessons will be considered for future publication. Send your ideas and slides to David Gamble, National Marketing Director, American Art Clay Co., Inc.

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